

Food of the Common Partridge (*Perdix perdix*) of Europe.¹— Considerable interest attaches to this article as large numbers of these birds under the name of Hungarian Partridges are being imported and naturalized in this country. The authors give the result of painstaking examinations of 295 (!) stomachs and crops from birds secured in Hungary. For the month of August the results given are very complete but they cannot be considered conclusive for the entire year. The different months are represented as follows: January, 9 birds; February, 7; March, 4; April, 2; June, 2; July, 4; and August, 257. The large number secured in August were taken in the hunting season, while the months from September on are entirely unrepresented. Field observations supplement the detailed stomach examinations.

The great bulk of the food as shown by tabulation is made up of vegetable matter of which weed seeds and fragments of plants predominate. Wheat was found in 147 instances in amounts varying from 1 to 122 grains. Barley was taken 87 times, oats 47 times and rye 29 times, while smaller amounts of corn, buckwheat, vetch, timothy, red clover and sorghum seeds were identified from the stomachs. It is stated, however, that all these grains are picked up as waste in the stubble so that they do not count against the partridges. A few birds taken from January to June had eaten large amounts of grass.

Among seeds of plants that may be called weeds and others of neutral value 107 species were identified as of more or less common occurrence. knotweeds (*Polygonum aviculare*, *convolvulus* and *lapathifolium*) were taken frequently and the common pigeon grass (*Chaetochloa glauca*) was eaten 164 times, as many as 820 seeds being encountered in a single individual. Bottle grass (*Chaetochloa viridis*) seeds too were eaten extensively. A star thistle (*Centaurea cyanea*) was eaten 101 times and the long array of other species occurred in smaller amounts. These are said to be mainly seeds of plants which grow among crops and along the borders of the fields so that in eating them the partridges may do a small amount of good.

Insect remains were found in 177 instances though in only eleven cases did they form any large amount of the contents. One third of the 38 species of beetles eaten were ground beetles (*Carabidæ*) but some of these are not predaceous species and seven of those listed are said to be actually injurious. Two Coccinellids and one Cicindelid form the remaining beneficial species. Several *Scarabæids* were secured, one of which (*Phyllopertha horticola*) damages oaks while click and leaf-beetles and various weevils may be noted. Ants form the bulk of the animal food listed and among them *Lasius alienus* was eaten 72 times and *Lasius niger* 57 times. Of the latter as many as 250 examples were taken from one bird. Cater-

¹ Über den wirtschaftlichen Nutzen des Rebhuhns-*Perdix perdix* (L.) — Aquila 1912, pp. 166-209.

Vegetabilische Nahrung des Rebhuhns, von Ludwig Thaisz. Die Insectennahrung des Rebhuhns (*Perdix perdix* L.) von E. Csiki.

pillars of 3 species were identified, flies were taken once and locusts (mainly *Stenobothrus* sp.) occurred 16 times. The Hemiptera secured were largely injurious forms and last of all remains of spiders were encountered 4 times. In conclusion it is stated that the Partridge may be considered beneficial to agriculture in its food habits as well as of value as a game bird.

Had the results of the examination of the vegetable food been tabulated in some way the information presented would be more readily available but otherwise the paper may be commended as a careful piece of work. It is to be hoped that further investigations may give information of the food for the last part of the year and supplement the examinations made in the spring months. The young in the first few weeks of their existence should consume large amounts of insects.—A. W.

The Ornithological Journals.

Bird-Lore. Vol. XVI. No. 4. July-August, 1914.

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Breeding Birds of a Clay County, Iowa, Farm. By I. N. Gabrielson.—Annotated list of 50 species.